



# Neo-Neon LED Lighting International Ltd.



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*(Notice: If you fail to get through, please fax to our Hong Kong Office with Fax No: 852-2786-2479, they will transfer it to us immediately.)*

Dear Mr. Richard karney,

Thanks for your Proposed category "A" additions - "Outdoor Area & Parking Garage", I appreciate that there is this chance to share my opinions /comments,as follows:

## **A, Report and / or make a footnote about the benchmark of energy-saving:**

DOE explains FTE could achieve at least 20% energy savings compared to top performing incumbent HID products in the file **<Overview of Fitted Target Efficacy (FTE)>**;

The benchmark of energy saving is very important to market penetration of LED lighting, if DOE mention lightly that its evaluation is based on the gerenal incumbent **HID** technology, It can not convince Roadway lighting administrator or Keeper of conventional HPS roadway lighting that LED roadway luminaires could achieve at least 20% energy savings.

Meanwhile, "FTE" in lighting industry is a new concept, many pepole in the lighting industry could not yet understand it, so, it is necessary that DOE publish a more detailed report to open FTE's evaluation base as soon as possible;

Also, related to LED energy-saving benchmark, It is strongly suggested that Energystar should make a formal word or make a footnote anyway in the criteria , it will be very necessary and helpful to LED market penetration.

## **B, Differentiate "Area and roadway luminaires":**

The following several reasons need your further kind consideration :

### **B1, Differentiate the benchmark of roadway luminaires:**

DOE only say the benchmark of enerysaying is based on evaluation of hundreds of HID luminaires and achieve at least 20% energy savings.

We query:

MH and HPS have differnet luminaire efficacy rating (HPS =104-116 lm/w; MH =70-92 lm/w with reference to<Specifier Report: Parking lot and area Luminaires>), both are HID products, which type (MH or HPS) incumbent HID product is based on for the 20% energy savings?

Meanwhile, Roadway lighting is more commonly use **HPS**, Area lighting popularly use **MH** because of its better CRI.



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So, "Roadway luminaire" and "Area luminaires" should have different benchmark of incumbent technology.

## **B2 ,FTE no consider CU of Roadway Luminaires:**

"FTE" is a simple, innovative and very good concept, which make it easy to set up the benchmark of LED luminaires efficacy.

It shall be more suitable for Area lighting , because Area lighting is suitable to plot targeted rectangular area;

But It shall not be suitable for Roadway Luminaires because it is not consider how much luminous flux may be wasted on house side.

So, it shall differentiate Roadway Luminaires from the Area Luminaires with consideration of "**coefficient of utilization (CU)**" and IES roadway lighting distribution.

The draft 1 has correct consideration to differentiate IES Roadway Luminaires classification, which only need further modification from my point of view.

## **B3, Glare limit and lighting zones:**

### **a) ,BH glare limit and waste on house side:**

The "Maxium luminous flux in glare and lighting Zones" limit BH(60-80°) < **20%**, which would permit too many luminous flux wasted on broader house side ( **HS >1.7MH** -5.7MH at BH=60-80° ), that will lead to poor roadway luminaire with ENERGYSTAR logo.

This also verify the above B2 problem that the draft have not considered "**coefficient of utilization (CU)**" of Roadway luminaires.

### **b) , UL/UH glare limit and lighting zones:**

#### **b-1) ,Glare limit –Relative percent rating:**

I copy an abstract from **LEED** file ralating to glare limit and lighting zones:

**"LZ4 (City centers of cities with populations over 100,000)--** no more than **10%** of the total designed site lumens are emitted at an angle of 90 degrees or higher.

**LZ3 (Default for urban areas)--** no more than **5%** of the total designed site lumens are emitted at an angle of 90 degrees or higher;

**LZ2 (Default for residential areas -rural) --** no more than **2%** of the total designed site lumens are emitted at an angle of 90 degrees or higher."



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UL/UH glare limit in the draft criteria is UL 4%+ UH 4%=8%;

From the abstract of LEED, we could know the requirement is classified into LZ4 (Lighting zone 4, <10%), but LZ4 (Lighting zone 4) is only suitable for Area /Parking lighting in **city centers**, unsuitable for Roadway lighting; It is much low glare limit for roadway luminaires.

### **b-2 ) ,Glare limit –Absolute lumious flux rating:**

The absolute lumious flux of Glare limit in draft 2 is classified into **B4,U4,G4** according to **<TM-15-07BUG rating Addendum>**;

**B4,U4,G4** is required under Lighting Zone 4(**LZ4**) according to **< Model Lighting Ordinance (MLO)>**;

With reference to **MLO**; “**LZ4**: High ambient lighting; **LZ3**:Moderately high ambient lighting; **LZ2**: Moderate high ambient lighting”.

We can conclude, Glare limit in the draft is only suitable for Area Luminaires, not suitable for Roadway luminaires -too low glare limit!

Summarily, the draft shall differentiate Roadway luminaires from “Area and roadway luminaires”.

Thank you for your time and effort reviewing the above comments.

Peter Tao &  
Testing Center / Manager

Hector Wang  
Ph. D / VP of Sales and Marketing